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# Brown Rot of Stone Fruits

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# Plant Disease Control

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## Brown Rot of Stone Fruits

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One of the questions most commonly asked by amateur fruit growers is "Why do my plums and peaches rot and dry up just as they are getting ripe?" The brown rot disease that is responsible for this rot condition will cause some loss every year; and in years when humid, rainy weather occurs, the disease may destroy the entire fruit crop. Brown rot can be just as damaging to cherries, nectarines and other stone fruits.

### Symptoms

Brown rot usually first appears during bloom. The blossom clusters wilt and turn brown. If wet weather prevails during bloom the diseased blossom cluster becomes covered with a gray spore mass of the fungus. About two weeks after bloom, the infection will have progressed down the flower stalk into the twigs and branches of the tree. Twigs infected in this way quickly wither causing a die-back of the young terminal shoots. Brown rot on the fruit becomes more noticeable as the fruit approaches maturity. The first evidence of the rot is the appearance of a small circular brown spot that develops very rapidly if the fruit is mature. The rotted area eventually becomes covered with gray-colored tufts which break through the skin of the peach--see Figure 1. It is this stage that gives the disease the name "Brown Rot." The fruit usually retains its form and remains attached to the tree for some time after it is completely rotted; then it either falls or, if retained on the tree, gradually dries into a firm "mummy."

### Cause

Brown rot is caused by the fungus, Monilinia fructicola. The fungus overwinters

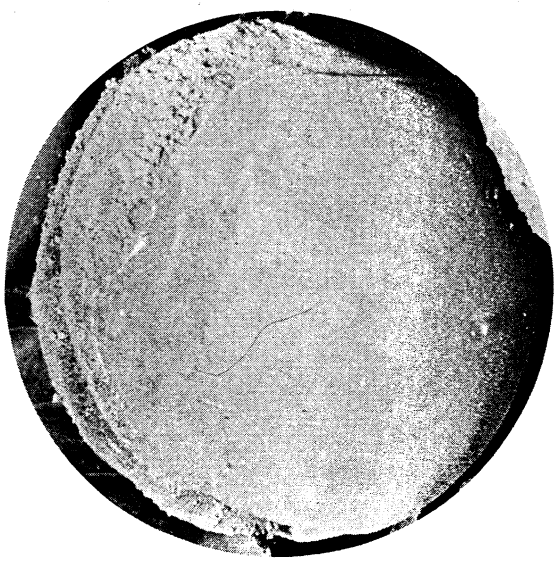

Figure 1. Brown rot caused the damage to the left side of the peach.

2/79



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in infected twigs or in mummified fruit on the tree or on the ground. These overwintering sources supply spores for infection in the spring. The blossom clusters and twigs which become infected in spring will then provide a secondary source of spores for fruit infection later in the growing season. Therefore, it is important to control these early infections. The disease is most damaging in years when wet weather prevails during bloom and from 3 weeks prior to harvest until harvest.

## Control

Brown rot cannot be effectively prevented by one or two sprays or dusts applied in the spring. A combination of both cultural and chemical control measures as outlined below is required for control of brown rot.

## Cultural practices

Orchard sanitation is of major importance in controlling brown rot. Trees should be pruned to eliminate weak and dead wood, including small twigs that may have been killed by brown rot the year before, and to open them so good spray penetration can be obtained.

Mummied fruit left on the tree after harvest and those on the ground should be removed in early spring and either burned or deeply buried. Rotten fruit that appear in the trees early in the summer should be removed immediately since they are a source of infection for fruit at harvest time.

## Chemical Control

Sprays must be applied at the proper time for good control of brown rot. The following spray schedule is suggested: (1) prebloom (when blossom buds show pink); (2) bloom (when 50% of blossoms are open); (3) petal fall (when 75% of petals have fallen); (4) shuck fall (when most shucks have fallen); (5) first cover (10 days after shuck fall); and (6) preharvest sprays (apply 14, 7 and 2 days before harvest). Note: Read container label for days between final spray and harvest.

Equally important as the timing of sprays is the spray material itself. Fungicides effective in controlling brown rot are: benomyl (sold as Benlate 50WP); captan (sold as Orthocide 50W, Captan 50W, etc.); mirofine wettable sulfur 95%; or general purpose fruit sprays which contain any one of the above fungicides (see BP-3-1 for further information on general purpose sprays). Note: for users of general purpose fruit sprays it is suggested, and often required because of harvest restriction days, to use one of the specific fungicides, e.g., captan or benomyl for the preharvest sprays. See container label for rates of use and ALWAYS READ THE CONTAINER LABEL FULLY AND FOLLOW ALL DIRECTIONS AND PRECAUTIONS.